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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/324,905	06/02/1999	RAY A. BITTNER JR.	MS1-317US	2156
22801	7590	05/20/2004	EXAMINER	
LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201			VO, LILIAN	
			ART UNIT	PAPER NUMBER
			2127	10

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/324,905

Applicant(s)

BITTNER ET AL.

Examiner

Lilian Vo

Art Unit

2127

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1 – 39 are pending.

#### *Claim Objections*

2. Claims **7, 11 and 15** are objected to because their formats are improper. They are claiming the computer-readable storage media but depending on the method claims. The Office is not sure whether they are independent claims, which claim the computer-readable storage media or the dependent claims of the method claims.

Appropriate correction is required.

#### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 – 11, 16 – 23, 31 and 37 - 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. **Claims 5, 8, 16 and 37 - 39** recite the limitations "the recorded" in page 3, lines 10 and 12, page 4, line 13, page 7, lines 10, 13, and page 14, lines 12, 3 and 3, respectively. There is insufficient antecedent basis for this limitation in the claim.

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6. **Claim 19** recites the limitation "the following" in page 7, line 2. There is insufficient antecedent basis for this limitation in the claim.

7. **Claims 20 and 22** recite the limitations "the registered" in page 8, line 13, page 9, line 2, respectively. There is insufficient antecedent basis for this limitation in the claim.

8. **Claim 31** recites the limitation "to performs ..." in page 11, line 2. The examiner believes this is a grammatical error.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 2, 4 – 8, 10 – 13, 15, 16, 18 – 20, 22 – 26, 28 – 30, 32, 33 and 35 -39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie et al. (US 6,230,259, hereinafter Christie) in view of Rosenthal et al. (US 5,918,050, hereinafter Rosenthal).

11. Regarding **claim 1**, Christie discloses in a computing device having a processor that generates a first address signal of a first width and a second address signal of a second width that is greater than the first width, wherein the second address signal is produced in the computing

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device by concatenating an address extension from an address extension register with the first address signal (fig. 6 and 7c, col. 12, line 10 – col. 13, line 21), a method comprising:

concurrently executing threads of a plurality of application programs, wherein different ones of the threads indicate one or more address extensions to an operating system (col. 2, line 58 – col. 3, line 7, col. 16, lines 7 – 45, col. 19, line 30 – col. 20, line 12, figs. 11 – 13, and 15 – 16);

storing the address extensions for use by the operating system (figs. 11 – 13, and 15 – 16);  
repeatedly switching between execution of the threads (figs. 11 – 13, and 15 – 16, col. 15, lines 19 – 55, col. 16, lines 7 – 45); and

prior to executing a particular thread, writing the address extension of the base address indicated by the particular thread to the extension register (figs. 11 – 13, and 15 – 16, col. 15, lines 19 – 55, col. 16, lines 7 – 45).

Christie however did not clearly disclose the address signals are the addresses of the peripheral devices. Nevertheless, Rosenthal discloses the step of addressing the device address by the concatenated value in the translation table (col. 19, lines 12 – 35, col. 26, lines 20 – 50).

It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate the feature taught by Rosenthal with Christie to address the system devices with the address signals to effect communications between computer system and other devices coupled thereto (Christie: col. 5, line 66 – col. 6, line 9).

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12. Regarding **claim 2**, Christie discloses a method as recited in claim 1, wherein the address extensions are indicated as a value of the second width (col. 12, lines 10 – 67, col. 16, lines 7 – 45, col. 19, line 30 – col. 20, line 12, figs. 6 - 9).

13. Regarding **claim 4**, Christie did not clearly disclose the additional limitation as claimed. Nevertheless, Rosenthal discloses the step of calling an operating system device driver from one of the threads, wherein the device driver invokes an initialization function to indicate the one or more base addresses (col. 11, lines 43 – 62, col. 14, lines 29 – 67 and fig 3).

It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate Rosenthal's teaching to Christie so that operation such as accessing the devices from different programs is feasible.

14. Regarding **claim 13**, Christie discloses a register initialization function that is callable by the threads to specify address extensions (col. 16, line 46 – col. 17, line 32, col. 17, line 57 – col. 18, line 28, fig. 11).

15. Regarding **claim 25**, Christie discloses the address extension are specified as base addresses (figs. 6, 7c and 9).

16. **Claims 5 – 8, 10 – 12, 15, 16, 18 – 20, 22 - 24, 26, 28 – 30, 32, 33, 35 - 39** are rejected on the same ground as stated above.

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17. Claims 3, 9, 14, 17, 21, 27, 31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie et al. (US 6,230,259, hereinafter Christie) in view of Rosenthal et al. (US 5,918,050, hereinafter Rosenthal), as applied to claims 1, 8, 12, 16, 20, 26, 28 and 33 above, and further in view of Applicants' admitted prior art.

18. Regarding **claim 3**, Christie and Rosenthal did not clearly disclose the additional limitation as claimed. Nevertheless, the concept in which each device is assigned with an address range is shown by the applicants' admitted prior art, (specification page 2, lines 1 – 3, page 3, lines 6 – 21).

It would have been obvious for one of ordinary skill in the art, at the time the invention was made, to incorporate applicants' admitted prior art to the combination of Christie and Rosenthal to address each device within its accessible address ranges since different application programs (processes, threads) provide different context values for the registers of input/output devices and thus require different context on the input/output device in order to function most effectively (Rosenthal: col. 5, lines 6 – 9).

19. Regarding **claim 31**, Christie discloses the step of:

storing more than one address extension value in memory, each value being associated with a particular execution thread (figs. 11 – 13, and 15 -16, col. 15, lines 19 – 55, col. 16, lines 7 – 45); and

loading the extension register with the value in memory associated with a particular execution thread prior to resuming execution of that execution thread (figs. 11 – 13, and 15 -16, col. 15, lines 19 – 55, col. 16, lines 7 – 45).

Christie and Rosenthal however did not clearly disclose that each address extension identifies an address range associated with one or more peripheral devices. Nevertheless, the concept in which each device is assigned with an address range is shown by the applicants' admitted prior art, (specification page 2, lines 1 – 3, page 3, lines 6 – 21).

It would have been obvious for one of ordinary skill in the art, at the time the invention was made, to incorporate applicants' admitted prior art to the combination of Christie and Rosenthal to address each device within its accessible address ranges since different application programs (processes, threads) provide different context values for the registers of input/output devices and thus require different context on the input/output device in order to function most effectively (Rosenthal: col. 5, lines 6 – 9).

20. **Claims 9, 14, 17, 21, 27 and 34** are rejected on the same ground as stated above.

#### ***Response to Arguments***

21. Applicant's arguments with respect to claims 1, 5, 8, 12, 16, 20, 24, 26 and 33 have been considered but are moot in view of the new ground(s) of rejection as set forth above.



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***Conclusion***

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 703-305-7864. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo  
Examiner  
Art Unit 2127

lv  
May 11, 2004

  
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